A CONTEXT SWITCHING SYSTEM FOR A MULTI-THREAD EXECUTION PIPELINE LOOP AND METHOD OF OPERATION THEREOF

ABSTRACT OF THE DISCLOSURE

A context switching system for a multi-thread execution pipeline loop having a pipeline latency and a method of operation thereof. In one embodiment, the context switching system includes a context switch requesting subsystem configured to: (1) detect a device request from a thread executing within the multi-thread execution pipeline loop for access to a device having a fulfillment latency exceeding the pipeline latency, and (2) generate a context switch request for the thread. The context switching system further includes a context controller subsystem configured to receive the context switch request and prevent the thread from executing until the device request is fulfilled.